FINAL

Appendix C-3

Records Management Plan

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LIST OF ACRONYMS

ACM	Asbestos-Containing Material
AOC	Administrative Order on Consent
CABI	Certified Asbestos Building Inspector
COC	Compound of Concern
DBA	Database Administrator
DBMS	Database Management System
DCA	Document Control Administrator
°C	degrees Centigrade
DMT	Data Management Team
EDD	Electronic Data Deliverable
EMSI	Engineering Management Support, Inc.
EPA	Environmental Protection Agency
FSP	Field Sampling Plan
ORP	Oxidation Reduction Potential
OU-2	Operable Unit No. 2
PAHs	Polynuclear-aromatic Hydrocarbons
PID	Photo-ionization Detector
OU-2	Operable Unit #2
QAPP	Quality Assurance Project Plan
QC	Quality Control
RAWP	Response Action Work Plan
RMP	Records Management Plan
SAP	Sampling and Analysis Plan
SDG	Sample Delivery Group
TCLP	Toxicity Characteristic Leaching Procedure
VOCs	Volatile Organic Compounds

1 INTRODUCTION

This Records Management Plan (RMP) presents the approach, methods, and procedures for managing field data, design information, and project documents that are generated during design and implementation of the "environmental components" of an open channel stormwater drainage structure planned for Operable Unit 2 (OU-2) of the Vasquez Boulevard/Interstate 70 (VB/I-70) Superfund Site. The following information is presented in this Plan:

- Section 2 – Document control and tracking;
- Section 3 – Data generation and transfer from field activities and laboratory analyses to the electronic database. Management of the electronic database is also addressed in this section; and
- Section 4 – Report formatting, distribution, and records retention.

2 DOCUMENT CONTROL AND TRACKING

A system of labeling and storing hard copy and electronic data is being implemented to control and track documents generated during design and construction. The primary objectives are to:

- Establish and maintain a central file containing all project documents that have been generated to date, and those which will be generated during the VB/I-70 Removal Action;
- Establish procedures to verify that documents are routinely placed in the central file in a consistent and logical manner; and
- Facilitate efficient retrieval of information while maintaining accurate records of each document's location and custodian.

2.1 Central File

Documents generated as part of Site activities are being stored in a central file located at the EMSI office at 7220 West Jefferson Ave, Suite 406, Lakewood, CO. The point of contact responsible for the central file is the Project Manager, Tim Shangraw, at 303.940.3426. In addition, copies of all files are being retained by the City and County of Denver in their record repository located at 200 West 14th Avenue, Denver, CO. The point of contact for these files is Ms. Lisa Farrell, at 720.865.5439. The EMSI central file system is structured into a series of project files according to the following divisions:

1. Project Setup
2. Project Management File
3. Correspondence
4. Status Reports
5. Cost Control
6. Planning Documents
7. Design Investigation
8. Design Documents
9. Implementation
10. Health and Safety Monitoring
11. Miscellaneous
12. Reference Documents
13. Electronic Data Files
14. QA Files

Elements of each project file are further defined in Appendix C-3A.

The Project Manager serves as the Document Control Administrator (DCA). He is responsible for maintaining, updating and tracking files. Specific responsibilities include:

- Assign document control numbers;
- Routinely file records in a consistent and logical manner;
- Accurately record document locations in the Project File Index;
- Accurately update and maintain the Project File Index ; and
- Supervise access to the file cabinets containing the documents.

These objectives are addressed through the document control and tracking procedures discussed below.

2.2 Document Control

Document control is accomplished using a document control number system. Each document is assigned a number and a file into which it is placed. The file number is unique to that document and is determined in accordance with following format:

VB	=	VB/I-70 Superfund Site
pf	=	Project file in which the document is stored (see Appendix C-3A for complete file structure)

The format and content of the document control number provide sufficient information such that tracking and control of records and documents is facilitated. For example, the document control number VB-6-6.2.3 indicates that the document was generated for VB/I-70 Superfund Site, is stored in project file 6 (Planning Documents); subsection 6.2.3 (Final Sampling and Analysis Plan).

The DCA assigns each document a unique control number, files the document in the appropriate project file, and updates the File Index with the new document. The updating procedure involves the following:

- A project staff member submits a new file to the DCA along with a description of the file, where the file is to be located, and a proposed file number.
- The DCA then reviews the request and assigns the appropriate file number. The new file number is assigned in chronological order.
- The DCA then inserts the file into the Central File and adds the new file number to the File Index.
- The updated File Index is then dated, printed, and inserted into the File Index notebook in replacement of the previous index.

Electronic mail (e-mail) is managed in the same manner as hard-copy documents. First, e-mail is printed in hard copy. Next, the names of the sender and recipient are highlighted,

along the date of transmission. The hard copy is then filed in accordance with the above procedure.

2.3 Document Tracking

Document tracking facilitates efficient retrieval of information while maintaining accurate records of each document's location and custodian. Document tracking is accomplished through an accurate and up-to-date tracking logbook. The logbook contains the following fields to aid in document tracking.

- Document control number;
- Individual borrowing the document and date of removal;
- Individual returning the document and date of return; and
- Confidential information business claims, if any.

In addition, whenever a document is removed from the central file, a sign-out card is inserted into the file holder from which the document was removed. In this manner, the DCA can quickly reference the status and location of the document that has been removed from the files. When the document is returned to the file, the card is removed.

Field or analytical data generated during Site activities requires a much greater level of control and tracking. The following Section discusses these procedures.

3 DATA GENERATION, TRANSFER, AND MANAGEMENT

A Database Management System (DBMS) is utilized to electronically process, store, track and manage relevant field and analytical data generated during Site activities. The DBMS is administered by the Data Management Team which consists of the Database Administrator (DBA) who manages the databases in Microsoft Access™, the validation chemist, a database manager specializing data use and graphics, and data checkers. DMT members report to the BDMS manager, who reports to the Project Manager.

The DMT coordinates with the field engineers, Certified Asbestos Building Inspector (CABI), and the Site Manager to collect and process the data. A flow diagram for processing data is presented in Figure C-3A. The primary objectives of the DBMS are to:

- Provide a mechanism to receive, process, store, track, and manage data from various field and monitoring sources including, but not limited to, geotechnical soil boring data, well installation data, field sampling data, water level data, analytical data, well abandonment data, and treatment process data; and
- Provide a tool to produce graphical outputs, tabular reports, and on-line queries that can be used to readily evaluate the geographic location of possible asbestos-containing material (ACM), hazardous material, performance of the water treatment facility, and to demonstrate regulatory compliance.

These objectives are accomplished by:

- Standardizing protocol to collect, transfer, process, track, and store technical data generated during investigative, design, and construction activities;
- Utilizing MS Access® to manage technical and environmental data generated during Site activities;
- Accessing data electronically to evaluate and map data; and
- Storing historical data.

Standardized protocol to collect, transfer, process, track, and store field and analytical data are presented in Subsection 3.1. Subsection 3.2 describes how Microsoft Access™ is used to store and manage the field and analytical data. Subsection 3.2 also contains protocol for preparing geologic and well construction logs, and the associated quality control procedures necessary to ensure the integrity of the information. Finally, end user needs and procedures to access electronic databases, as well as database security measures, are described in Subsection 3.2.

3.1 Data Generation and Transfer

As shown on Figure C-3A, the DBMS receives data from multiple sources. The field team directed by the Site Manager interfaces with the data management team (DMT) to transfer data generated from the field to the DBMS.

3.1.1 Field Analyses, Measurements and Logging

Field analyses and data logging include those activities that are associated with soil borings, piezometer installations, and field sampling events. Data generated during these activities are summarized in the following paragraphs. All laboratory analytical results are submitted by the laboratory's project manager to the DBA, who then distributes the data to members of the DMT.

3.1.1.1 Soil Borings and Piezometer Installation

Soil borings and piezometers will be drilled/installed during the design investigation. Nomenclature for identifying borings, soil core, grab samples, and piezometers are presented in the Field Sampling Plan (FSP). Data documented during these activities include, but are not be limited to:

- Location name;
- Coordinates (northing, easting);
- Total depth;
- Operator (contractor);
- Completion date;
- Abandoned date;
- Status;
- Elevation of ground surface inner and outer casing;
- Stickup;
- Screened interval and length;
- Borehole or well diameter;
- Sump interval;
- Elevation of base of weathering;
- Water table elevation, if known;
- Formation (weathered Dawson, Lignite, etc.) of screened interval;
- Type and quality of core;
- Rig type;
- Boring type;
- Geologist;
- Installation date;
- Driller;
- Soil type and description;
- PID readings at interval; and

- Piezometer construction material.

These data are documented during installation activities by the field geologist or engineer on a hardcopy boring log diagram. A senior geologist or engineer reviews the log and makes edits as necessary. After any corrections, a hardcopy of the log is prepared, checked, and filed. Information from the logs and survey coordinates are forwarded to the DBA, who creates a new record in the Wellindex table of the Master-working.mdb.

3.1.1.2 Sample Collection and Field Analyses

Field analyses are performed and sample collection information is recorded as water samples, soil samples and waste characterization samples are collected. Samples will be collected from test borings, piezometers, and existing monitoring wells. Nomenclature for identifying samples are presented in the FSP. Data documented during field analyses and sample collection include, but are not limited to:

Sample Chain of Custody:

Sampling and transport from the Site to the analytical laboratory are documented on the chain-of-custody (COC) record by the sample collectors in the field. Data documented on this record include:

- Sample identification, boring location, or well name;
- Sample date and time;
- Chain-of-custody number;
- Signatures, dates, and times;
- Matrix type;
- Shipping tracking number;
- Container type, volume, and preservative.
- Laboratory to which the samples were sent;
- Special instructions or observations;
- Date and time at which the samples were sent;
- Requested analytical turnaround times; and
- Analytical test methods requested.

Original chain-of-custody forms accompany the associated samples throughout sample transport. Copies of the chain-of-custody record remain in the field with the field records for conducting the sampling activities. A copy of the chain of custody form is sent to the DMT for tracking purposes. In addition, the laboratory returns the original chain-of-custody record with the analytical report to the DMT.

Groundwater Sample Collection and Field Analyses:

Groundwater sampling field data are documented on a Groundwater Sampling Record in electronic format by the Site Manager. The Site Manager then forwards this information to the DMT. Information included on the Groundwater Sampling Record includes:

- Purge rate;
- Depth to water;
- Volume purged;
- Temperature (°C);
- Specific conductance;
- Dissolved oxygen;
- pH;
- Oxidation-Reduction Potential (ORP);
- Turbidity;
- Physical description;
- Date of purge;
- Sampling depth;
- Description of sampling equipment;
- Equipment calibration information;
- Weather conditions;
- Equipment blank associations;
- Filtering information; and
- Water level information (e.g., depth to water, measuring point reference).

Upon receipt of the Groundwater Sampling Record, the DMT processes the electronic file using queries and manual edits. After the data are checked for errors, the DBA appends the data to the Field Data table in Master-working.mdb.

Soil Sample Collection:

Soil sampling data are documented on a chain-of-custody form in the field, and are forwarded by the sampler to the DMT. The soil COC information also includes the depth interval from which the sample was collected.

3.1.1.3 Water Levels

As they are measured in the field, water levels are checked for outliers against the previous reading for that well. If the new measurement is greater or less than 0.25 feet from the previous reading at that well, the water level is re-measured. If the reading remains greater or less than 0.25 feet from the previous reading, the technician reviews the previous five water levels from that well and the Site Manager researches a possible explanation (nearby well being pumped, well hasn't recharged after sampling, etc.). The Site Manager then annotates the water level result with pertinent information. The final data are then forwarded to the DBA who performs data checking and calculation routines before appending the new data set to the Water Levels table in Master-working.mdb.

3.1.2 Laboratory Analyses

Laboratory analyses are performed on water samples, soil samples, and waste characterization samples. Analytical procedures and internal quality control checks are performed by the analytical laboratory in accordance with current EPA protocols for the analytical methods stipulated in the FSP.

When preliminary results are received from the analytical laboratory (usually in .pdf format) the DMT immediately forwards them to the appropriate user (see Subsection 3.2.1). When hardcopy or electronic data deliverable (EDD) results are received, they are logged in by the DMT and managed as described in Subsection 3.2.1.

3.1.3 Reports by Others

Sources of data from other investigative activities are identified in the RAWP. In addition, ongoing investigations at the VB/I70 site by others may be applied toward design of this Removal Action. If findings from reports by others are applied to this design project, the origin of such findings will be referenced and professional judgement will be applied regarding acceptance and usability of the information.

3.2 Data Management

This subsection describes the processes used to track, load, check, store, query, transfer, and maintain the analytical and field data (Figure C-3A). Here, the DMT's responsibilities are to:

- Track analytical data from sample collection through validation;
- Process EDDs from the analytical laboratories, water level data, survey data, soil boring/piezometer construction data, and field sampling data and append to the appropriate database table;
- Perform transcription checks and validation qualifier entry;
- Assign data entry work and QC checking;
- Transfer data to appropriate end user;
- Query the data for end users; and
- Store and maintain the databases.

The following subsections describe these responsibilities in detail.

3.2.1 Data Tracking

After sample collection, a copy of the COC and a sample receipt notice (Confirmation Notice) from the laboratory are sent to the DMT, who logs each sample set into the Tracker table in Master-working.mdb. The following information is recorded:

- Classification/event (groundwater investigation, water treatment plant operation,

etc.);
- Requirements for validation, transcription checking, and distribution;
- Laboratory name:
- Sample location identifiers;
- Sample date
- Sample delivery group (SDG) number;
- Laboratory receipt date; and
- Laboratory results due date.

At this point, the DMT compares the COC to the Confirmation Notice to confirm analyte lists and resolve any problems the laboratory may have with the sample shipment. As indicated above, preliminary data are faxed or e-mailed to the DMT, who then forwards them to the appropriate user via e-mail. The receipt date of the preliminary data is then logged into the Tracker.

Hardcopy raw data packages (including the information specified in Table C-3A) are logged in using the Data Verification Checklist. A list of the data received is entered into the sample Tracker. The validation chemist then refers to the Tracker to determine which SDGs require validating, then performs the validation. The DBA also refers to the Tracker for a list of SDGs requiring transcription checks. Transcription checks are then performed.

Upon completion of data validation and transcription checks, the DBA updates the Tracker and enters any new data qualifiers or transcription information into the database. The EDD is e-mailed or sent by compact disk with the raw data package to the DBA. The DBA updates the Tracker after each SDG is processed.

The Tracker is also used periodically to check that all hardcopy and electronic data are received; that the data are processed into the appropriate data table; and that required validation and transcription checks were performed.

3.2.2 Data Processing

Data processing includes receipt, query checking, and appending new data; merging of validation qualifiers; corrections in the database as a result of transcription checks or other QC processes; and any other process by which the database is manipulated. Figure C-3B illustrates the conceptual flow of data.

As each set of data is received (laboratory, water level, field, logging, and process data), checking routines are performed and problems are resolved. These routines involve checking and resolving data consistency and integrity to verify that results have corresponding samples, samples have corresponding wells or locations, samples are uniquely identified, wells and locations are uniquely identified, units and compound names are consistent, and analytes are correct. For analytical data, the DBA refers to the Tracker to determine which table is appropriate to append the data. When QC and checking routines are complete the data are appended to the appropriate data table.

Occasionally data from other sources are merged into the databases. The DBA processes these data by applying the appropriate formats and standardizing field content (such as compound names). When data originate from a source other than those directly managed by the Respondent, a source identifier is added to identify its origin (i.e., EPA or Urban Drainage).

As indicated above, the validation chemist refers to the Tracker to determine which SDGs require validating. After validating an SDG, the chemist manually adds qualifiers to a queried set of data specific to that SDG in the Master-working.mdb. When the qualifiers have been added and QC'd, the DBA imports the information into Master-working.mdb and adds the qualifiers to the original data with an update query. The Tracker is then updated by the DBA.

Regarding transcription checks, the database manager provides a list of SDGs requiring transcription checks to a transcription checker. The checker prints out the electronic data and compares it to the summary data in the hardcopy or scanned raw data package. A yellow marker is used to indicate all data with which the checker agrees. A red pen is used to mark all proposed edits and to annotate corrections. Each printout is initialed and dated by the checker. The corrections are confirmed by a third party. The DBA then makes the changes to the electronic data, initials and dates the change, then files the printouts. The Tracker is again updated by the DBA after transcription checks are performed.

Occasionally, data users may find anomalous data and request a database change. Data verification is used to check data integrity prior to updating or modifying the databases. The data verification process addresses the following issues relative to data entry:

- Identifying and resolving relatively simple data problems;
- Identifying and resolving missing information, as appropriate; and
- Identifying and resolving erroneous data (e.g., non-numeric results, incorrect sample numbers).

If adequate documentation or reasonable explanation is provided for the change, then the edits will be made. The verification process is supervised by the DBA. All changes are documented and maintained in the project files.

3.2.3 Data Entry and Transcription Checks

Manual entry data include field data (i.e., well location and construction information). Oversight of data entry is the responsibility of the DBA. Certain types of data are received as a hardcopy or a scanned (pdf) file. When this happens, the data must be entered manually. These data are entered into an Excel spreadsheet with the same fields as the data table to which it will be added. Following QC checking (same procedure as for transcription checks), the DBA appends the data to the appropriate table.

3.2.4 Data Use

The DBA provides technical support to DBMS users and provides data for design and waste disposal purposes, among others. The DMT accesses the databases to query data, evaluate and analyze data, and generate tabular data reports or graphics.

Data queries are used to collect groups of data specified by a set of parameters. The query parameters are selected by the user and the data can be queried by the DMT, by a predefined query screen, or directly by the user, whichever the user prefers.

Queried data are used for evaluating and analyzing data, generating data reports and generating graphical plots using different software. Evaluations and analyses can also be conducted visually by displaying output on the monitor or by printed hard copy.

3.2.5 Data Transfer

Data transfer from the field and laboratories is described in Subsection 3.1. Processed data can be transferred electronically from a host computer containing the DBMS database files to a remote computer. Files can also be transferred on disk. Such transfers might include a copy of a portion of the database, calculated results of requested queries or requested graphical files. Users are cautioned that such requests may include data that are current only up to the time that the transfer is made. If the same data are needed at a later time, a new request should be made to verify that the data are up-to-date.

Electronic databases are in Microsoft Access® formats. Databases and tables maintained and archived for the Site are listed in Figure C-3C.

3.2.6 Database Storage, Maintenance and Security

3.2.6.1 Data Storage

Multiple databases and data tables store data from the activities at the Site. Figure C-3C lists the data tables and databases.

3.2.6.2 Data Maintenance

Routine maintenance procedures performed on the databases include:

- Checking for database fragmentation and repair, as needed;
- Discovery and repair of basic software problems;
- Removal of obsolete data tables from the databases; and
- Performance of regular system backup.

3.2.6.3 Data Security

Data are secured from unauthorized access to minimize the potential for the loss or destruction of data. The DBA maintains a controlled, password-protected version of the database (Master-working.mdb). A password-protected copy of this database is available for project personnel and is updated whenever the controlled copy is revised (Master.mdb).

The computer server that stores the data is secured in a locked room with limited access. Data are backed up daily and secured at an offsite location as part of regular network backup procedures. Measures are also taken to minimize the potential of database corruption by computer viruses. All system and local computers that manage the database are protected from computer viruses by an integrated virus scanner and firewall.

4 REPORT FORMATTING, DISTRIBUTION, and RECORDS RETENTION

4.1 Report Formatting and distribution

All draft report documents will be submitted in hard copy to the Agencies for their review and comment. Respondent may also submit electronic copies of draft documents to the agencies for their review and comment directly within the electronic document. Respondent will respond to comments (hard copy or electronic) in the manner in which they are received (hard copy or electronic). Informal comments, i.e., those discussed orally during work group meetings or via telephone, will be addressed and resolved in the same manner in which they are received. Comment resolutions will be incorporated into the final document, which will contain a signature page for EPA approval. An electronic copy of each draft document will be submitted to EPA.

Final report documents will be submitted in both hard copy and electronic format. Electronic format for text, tables, figures, and small appendices will be in "smart" Acrobat Adobe™ format where possible, that will retain active links within the document to the Table of Contents and referenced external internet sites/e-mail. This electronic format will also allow for word searches within the document. Large appendices that contain electronic databases or other structured electronic files (e.g. MS Excel™, MS Access™, AutoCad™) will be submitted in the format in which they were generated. All electronic format documents will be transmitted on compact disk in read-only format.

Distribution of documents will be as follows:

Draft Documents:

EPA	3 copies (2 hard copies and one in electronic format)
CDPHE	2 copies (1 hard copy and one in electronic format)

Final Monitoring Plans and Work Plans:

EPA	3 copies (2 hard copies and one in pdf format)
CDPHE	2 copies (1 hard copy and one in pdf format)

Monthly Status Reports:

EPA	3 copies (2 hard copies and one in pdf format)
CDPHE	2 copies (1 hard copy and one in pdf format)

Distribution of all other documents to other agencies or interested parties will be as directed by EPA.

4.2 Records Retention

In accordance with Section XI (Record Retention) of the AOC, project records that relate in any manner to the Respondent's liability under CERCLA with respect to the Site will be retained for ten (10) years after Respondent's receipt of EPA's Notification of Completion of the Removal Action, pursuant to Paragraph 17 of the AOC. In addition, contractors or agents of the Respondent will preserve, for the same period of time, all non-identical copies of the last draft or final version of any documents or records (including documents or records in electronic format) that relate in any manner to the performance of the work.

At the conclusion of the retention period, Respondent will notify EPA at least ninety (90) days prior to the destruction of any such records or documents, and, upon request by the EPA, the Respondent will deliver any such records or documents to EPA. The Respondent may assert that certain documents, records, and other information are privileged under the attorney-client privilege, business confidential, or any other privilege recognized by federal law. In such a case, Respondent will provide EPA the general information about the documents required in Paragraph 37 of the AOC.

Tables

Table C-3A

REQUIRED HARDCOPY LABORATORY DELIVERABLES

VB/I-70 SUPERFUND SITE

Method Requirements	Laboratory Deliverables (Definitive Data)
Requirements for all methods:	
Case narrative	Project identification Analytical method description and reference citation Discussion of unusual circumstances, problems, and nonconformances
Chain-of-custody (COC) form	Signed and dated when samples were received at laboratory
Dates of sample preparation and analysis (including first run and subsequent runs).	Any format
Quantitation limits achieved.	Any format
Dilution or concentration factors.	Any format
Summary analytical batch report including analytical batch samples, method of analysis, matrix description, date of sample collection and receipt, laboratory identification number of each environmental sample plus identification number of each batch quality control (QC) sample (including matrix spike/matrix spike duplicate (MS/MSD), calibration check, etc.).	Any format
Method reporting limits	QC summary report
QC limits	QC summary report
Practical quantitation limit (PQL) verification standard (weekly)	Any format
Corrective action reports.	Any format
Laboratory data validation/review checklists	Any format
A copy of all raw laboratory analytical data	Any format (chromatograms, mass spectra and data system printouts)
Example sample calculation	Any format
A copy of the sample preparation data form for each method indicating sample identification number, batch identification number, and date of preparation	Any format (preparation, extraction, or digestion data)
Percent moisture for all soil samples	Any format

Table C-3A (CONTINUED)
REQUIRED HARDCOPY LABORATORY DELIVERABLES

VB/I-70 SUPERFUND SITE

Method Requirements	Laboratory Deliverables (Definitive Data)
Requirements for organic analytical methods:	
Sample data sheets	Summary information only [a/]
Surrogate recoveries	Summary information only
MS/MSD	Summary information only
Method blank analysis	Summary information only
Laboratory control spike (LCS)	Summary information only
Instrument performance check (Tuning)	Summary information only
Initial calibration data	Summary information only
Continuing calibration data	Summary information only
Calibration blank data	Summary information only
Internal standard area and retention time summary data	Summary information only
Retention time windows	Summary information only
Analysis run log	No format
Requirements for inorganic analytical methods Metals:	
Sample data sheets	Summary information only
Initial and continuing calibration	Summary information only
Method blank, taken through sample preparation	Summary information only
Calibration blank data	Summary information only
Interference check sample	Summary information only
Laboratory control spike/laboratory control spike duplicate	Summary information only
Matrix spike/matrix spike duplicate	Summary information only
Post-digestion spike sample recovery	Summary information only
Method of standard additions	Summary information only
Serial dilutions	Summary information only
Analysis run logs	No format

a\ Summarized results can be in any format that provides the necessary data to completely validate that QC parameter. Example formats are the form equivalents to those defined for the EPA Contract Laboratory Program or SW 846 programs.

Figures

Appendix C-3A

Project File Structure

APPENDIX C-3A

PROJECT FILE STRUCTURE
VB/I-70 SUPERFUND SITE

1.0 PROJECT SETUP

- 1.1 File Inventory
- 1.2 Setup Sheet
- 1.3 Project Schedules

2.0 PROJECT MANAGEMENT FILE

- 2.1 Project Proposal
- 2.2 Admin Order (AO)/SOW
- 2.3 Services Agreement
  - 2.3.1 Insurance Certificates
  - 2.3.2 Change Orders
- 2.4 Subcontract Agreements

3.0 CORRESPONDENCE

- 3.1 Respondent or EMSI - EPA
  - 3.1.1 Incoming Correspondence
  - 3.1.2 Outgoing Correspondence
- 3.2 Respondent or EMSI - EPA/CDPHE
  - 3.2.1 Incoming Correspondence
  - 3.2.2 Respondent – Parsons Outgoing Correspondence
- 3.3 Design Team Correspondence
  - 3.3.1 EMSI – CTL Thompson
  - 3.3.2 EMSI – Frobel & Associates
  - 3.3.3 EMSI – Test America
  - 3.3.4 EMSI – Aquifer Technology
  - 3.3.5 EMSI – Site Services Drilling
  - 3.3.6 EMSI – Foresight West Surveying
  - 3.3.7 EMSI – Reserved
- 3.4 Interoffice Correspondence
  - 3.4.1 Telecons
  - 3.4.2 Trip Reports

4.0 STATUS REPORTS

4.1 Monthly Status Reports

4.4 Document Inventory

5.0 COST CONTROL

5.1 Estimates

5.2 Work Breakdown Structure

5.3 Job Cost Summaries

5.4 Cost Performance Reports

5.5 Internal Review Documents

6.0 PLANNING DOCUMENTS

6.1 RA Work Plan

6.1.1 Draft

6.1.2 Comments/Responses

6.1.3 Final

6.2 Sampling and Analysis Plan

6.2.1 Draft

6.2.2 Comments/Responses

6.2.3 Final

6.3 Field Sampling Plan

6.3.1 Draft

6.3.2 Comments/Responses

6.3.3 Final

6.4 Quality Assurance Project Plan

6.4.1 Draft

6.4.2 Comments/Responses

6.4.3 Final

6.5 Materials Management Plan

6.5.1 Draft

6.5.2 Comments/Responses

6.5.3 Final

6.6 Health and Safety Plan

6.6.1 Draft

6.6.2 Comments/Responses

6.6.3 Final

7.8.2 Comments/Responses

7.8.3 Final

8.0 DESIGN DOCUMENTS

8.1 Preliminary Design (barrier system and water treatment)

8.1.1 Basis of Design

8.1.2 Plans and Specifications

8.1.3 Comments/Responses

8.2 Pre-Final Design (barrier system and water treatment)

8.2.1 Basis of Design

8.2.2 Cost Estimate

8.2.3 Plans and Specifications

8.2.4 Comments/Responses

8.3 Final Design (barrier system and water treatment)

8.3.1 Basis of Design

8.3.2 Cost Estimate

8.3.3 Plans and Specifications

8.3.4 Comments/Responses

9.0 IMPLEMENTATION

9.1 Procurement

9.1.1 Prequalified Contractors

9.1.2 Construction Bid Documents

9.1.3 Reserved

9.1.4 Reserved

9.2 Preconstruction Conferences

9.3 Inspection Diaries

9.4 Shop Drawing Submittal Log

9.5 Waste Profiles

9.5.1 Waste Tracking

9.5.2 Manifests

9.5.3 Handling notes

9.6 Water Treatment

9.6.1 Operating Records

9.6.2 Analytical Results

9.6.3 Secondary Wastes

9.7 Change Orders

9.8 Claim Documentation